

Other Motor Vehicle Electrical and Electronic Equipment Manufacturing: 2002

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2002 Economic Census

Manufacturing

Industry Series



U S C E N S U S B U R E A U

Helping You Make Informed Decisions

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU



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-- Not applicable for this report.

Table 1. Historical Statistics for the Industry: 2002 and Earlier Years

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry and year ¹	Com- panies ²	All estab- lish- ments ³	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expendi- tures (\$1,000)	
			Number ⁴	Payroll (\$1,000)	Number ⁴	Hours (1,000)	Wages (\$1,000)					
336322, Other motor vehicle electrical and electronic equipment manufacturing	2002..	704	782	92 028	3 533 334	66 615	128 131	2 145 084	11 590 527	11 063 662	22 629 073	'627 709
	2001..	N	N	95 893	3 678 859	70 391	133 134	2 385 462	9 903 796	12 406 468	22 379 693	592 727
	2000..	N	N	102 564	3 902 827	74 721	142 821	2 572 386	9 964 347	12 875 379	22 776 157	572 256
	1999..	N	N	100 345	3 677 666	77 048	144 948	2 534 592	10 044 109	12 844 751	23 008 996	732 778
	1998..	N	N	99 295	3 325 135	76 310	148 900	2 224 174	9 060 679	10 701 416	19 655 879	714 981
	1997..	890	951	97 572	3 349 341	74 813	142 961	2 261 524	7 962 135	10 226 137	18 297 239	739 849

¹Statistics presented for years ending in 2 and 7 are census data. Interim census years are derived in a representative sample of manufacturing establishments canvassed in the Annual Survey of Manufactures (ASM).

²For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

³Includes establishments with payroll at any time during the year.

⁴Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 2. Industry Statistics for Selected States: 2002

[States that are a disclosure or with less than 100 employees are not shown. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographical definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

Industry and geographic area	E ¹	All establishments ²		All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
		Total	With 20 employees or more	Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
336322, Other motor vehicle electrical and electronic equipment manufacturing												
United States	1	782	330	92 028	3 533 334	66 615	128 131	2 145 084	11 590 527	11 063 662	22 629 073	'627 709
California	2	89	32	3 348	109 828	2 684	5 427	71 184	332 430	321 172	645 924	'16 335
Georgia	5	18	10	1 737	49 568	1 418	2 645	31 783	95 366	146 469	241 504	'6 525
Illinois	1	53	23	4 256	132 868	2 730	5 420	62 719	476 118	430 344	923 507	'27 798
Indiana	—	49	28	11 852	559 577	7 814	15 401	302 182	3 247 204	1 838 586	5 103 235	'143 495
Iowa	—	15	6	1 054	36 062	879	1 880	31 397	137 674	69 086	204 548	'5 312
Kansas	—	14	8	1 284	38 188	942	1 718	23 477	120 082	151 569	259 054	'1 810
Maryland	1	3	3	741	23 570	546	1 056	14 902	87 276	42 969	128 467	'2 748
Massachusetts	—	20	6	2 533	129 139	1 054	2 075	19 172	418 871	257 564	678 627	'21 243
Michigan	—	55	29	16 520	607 397	12 446	23 308	408 625	1 516 108	1 066 982	2 542 746	'77 503
Minnesota	5	11	4	1 020	27 445	801	1 672	18 351	50 216	61 442	109 064	'2 262
Mississippi	2	15	10	3 304	92 120	2 854	4 986	70 404	126 477	259 342	400 844	'19 676
Missouri	5	17	1	156	4 796	125	213	2 990	12 958	11 029	24 023	'528
New York	—	37	9	3 413	177 015	2 352	4 681	112 460	430 634	455 497	935 682	'20 312
North Carolina	2	10	9	1 404	51 303	1 025	2 782	28 828	202 599	263 313	466 508	'11 643
Oklahoma	1	11	5	1 787	52 882	1 423	1 161	39 655	154 677	125 226	277 380	'2 428
Oregon	—	14	3	355	17 213	183	374	8 194	44 585	33 063	77 269	'1 023
Pennsylvania	1	33	14	4 522	140 087	3 657	6 801	95 666	472 536	480 220	916 983	'14 570
South Carolina	1	12	7	1 883	57 702	1 518	3 053	37 338	166 589	211 145	376 905	'5 841
Texas	5	52	24	4 229	127 206	2 342	4 327	61 156	584 820	631 829	1 219 355	'44 459
Washington	5	18	7	509	18 845	400	852	11 802	61 093	50 822	111 590	'2 253
Wisconsin	—	24	8	2 406	115 984	1 433	2 957	53 596	437 948	417 196	841 020	'8 921

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 3. Detailed Statistics by Industry: 2002

[Data based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). For information on confidentiality protection, sampling error, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Item	Value
336322, Other motor vehicle electrical and electronic equipment manufacturing	
Companies ¹	number.. 704
All establishments ²	number.. 782
Establishments with 1 to 19 employees	number.. 452
Establishments with 20 to 99 employees	number.. 172
Establishments with 100 employees or more	number.. 158
All employees ³	number.. 92 028
Total compensation	\$1,000.. 4 866 101
Annual payroll	\$1,000.. 3 533 334
Total fringe benefits	\$1,000.. 1 332 767
Production workers, average for year	number.. 66 615
Production workers on March 12	number.. 67 735
Production workers on May 12	number.. 67 333
Production workers on August 12	number.. 65 913
Production workers on November 12	number.. 65 476
Production worker hours	1,000.. 128 131
Production worker wages	\$1,000.. 2 145 084
Total cost of materials	\$1,000.. 11 063 662
Materials, parts, containers, packaging, etc., used	\$1,000.. 8 734 073
Resales	\$1,000.. 2 049 309
Purchased fuels	\$1,000.. 30 122
Purchased electricity	\$1,000.. 115 514
Contract work	\$1,000.. 134 644
Quantity of electricity purchased for heat and power	1,000 kWh.. 2 120 970
Quantity of electricity generated less sold for heat and power	1,000 kWh.. -
Total value of shipments	\$1,000.. 22 629 073
Primary products value of shipments	\$1,000.. 15 974 599
Secondary products value of shipments	\$1,000.. 4 228 454
Total miscellaneous receipts	\$1,000.. 2 426 020
Value of resales	\$1,000.. 2 393 884
Contract receipts	\$1,000.. 20 251
Other miscellaneous receipts	\$1,000.. 11 885
Primary products specialization ratio	percent.. 79
Value of primary products shipments made in all industries	\$1,000.. 17 581 815
Value of primary products shipments made in this industry	\$1,000.. 15 974 599
Value of primary products shipments made in other industries	\$1,000.. 1 607 216
Coverage ratio	percent.. 91
Value added	\$1,000.. 11 590 527
Total inventories, beginning of year	\$1,000.. 2 166 458
Finished goods inventories	\$1,000.. 762 768
Work-in-process inventories	\$1,000.. 367 114
Materials and supplies inventories	\$1,000.. 1 036 576
Total inventories, end of year	\$1,000.. 2 159 428
Finished goods inventories	\$1,000.. 739 709
Work-in-process inventories	\$1,000.. 415 289
Materials and supplies inventories	\$1,000.. 1 004 430
Gross value of depreciable assets (acquisition costs) at beginning of year	\$1,000.. '8 261 242
Total capital expenditures (new and used)	\$1,000.. '627 709
Buildings and other structures (new and used)	\$1,000.. '65 492
Machinery and equipment (new and used)	\$1,000.. '562 217
Automobiles, trucks, etc., for highway use	\$1,000.. '10 166
Computers and peripheral data processing equipment	\$1,000.. '29 710
All other expenditures for machinery and equipment	\$1,000.. '522 341
Total retirements	\$1,000.. '518 851
Gross value of depreciable assets at end of year	\$1,000.. '8 370 100
Depreciation charges during year	\$1,000.. '635 055
Total rental payments	\$1,000.. 134 399
Buildings and other structures	\$1,000.. 71 176
Machinery and equipment	\$1,000.. 63 223
Total other expenses ⁴	\$1,000.. 540 463
Response coverage ratio ⁵	percent.. 75
Repair and maintenance services of buildings and/or machinery ⁴	\$1,000.. 82 204
Communications services ⁴	\$1,000.. 23 426
Legal services ⁴	\$1,000.. 9 140
Accounting, auditing, and bookkeeping services ⁴	\$1,000.. 6 072
Advertising and promotional services ⁴	\$1,000.. 7 216
Expensed computer hardware and supplies and purchased computer services ⁴	\$1,000.. 11 353
Refuse removal (including hazardous waste) services ⁴	\$1,000.. 9 787
Management consulting and administrative services ⁴	\$1,000.. 37 566
Taxes and license fees ⁴	\$1,000.. 41 923
All other expenses ⁴	\$1,000.. 311 776

¹For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Based on Annual Survey of Manufactures (ASM) sample data.

⁵A response coverage ratio is derived for this item by calculating the ratio of the weighted employment (establishment data multiplied by sample weight) for those Annual Survey of Manufactures (ASM) establishments that reported to the weighted total employment for all ASM establishments classified in this industry.

Note 1: The amounts shown for other expenses reflect only those services that establishments purchase from other companies.

Note 2: The data in this table are based on the 2002 Economic Census and the 2002 Annual Survey of Manufactures (ASM). To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain sampling errors and nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 4. Industry Statistics by Employment Size: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Employment size class	E ¹	All establishments ²	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ³	Payroll (\$1,000)	Number ³	Hours (1,000)	Wages (\$1,000)				
336322, Other motor vehicle electrical and electronic equipment manufacturing											
All establishments	1	782	92 028	3 533 334	66 615	128 131	2 145 084	11 590 527	11 063 662	22 629 073	'627 709
Establishments with—											
1 to 4 employees	9	311	591	26 960	478	864	17 553	75 079	78 562	153 634	'4 388
5 to 9 employees	9	86	549	28 124	439	848	18 706	82 844	88 427	171 261	'4 865
10 to 19 employees	7	55	787	34 192	593	1 124	21 134	82 214	84 237	167 167	'4 385
20 to 49 employees	3	99	3 207	111 690	2 341	4 617	62 323	311 323	324 399	632 321	'19 061
50 to 99 employees	3	73	5 256	167 029	3 918	7 613	100 210	437 710	583 599	1 021 995	'18 597
100 to 249 employees	1	92	14 427	435 666	10 606	20 649	247 549	1 201 510	1 662 395	2 843 227	'90 801
250 to 499 employees	1	36	12 808	417 872	9 434	19 264	255 056	1 168 248	1 465 456	2 650 188	'73 774
500 to 999 employees	—	13	8 186	239 742	6 917	13 439	178 228	765 871	672 050	1 425 928	'31 183
1,000 to 2,499 employees	1	12	20 277	945 042	13 648	25 372	569 444	2 733 906	2 869 493	5 614 417	'149 224
2,500 employees or more	—	5	25 940	1 127 017	18 241	34 341	674 881	4 731 822	3 235 044	7 948 935	'231 431
Administrative records ⁴	9	344	1 009	51 744	826	1 550	34 149	145 697	156 054	301 752	'8 700

¹Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at the time data were tabulated. The following symbols are shown where estimated data account for 10 percent or more of the figures shown: 1–10 to 19 percent; 2–20 to 29 percent; 3–30 to 39 percent; 4–40 to 49 percent; 5–50 to 59 percent; 6–60 to 69 percent; 7–70 to 79 percent; 8–80 to 89 percent; 9–90 percent or more.

²Includes establishments with payroll at any time during the year.

³Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

⁴Some payroll and sales data for small single-establishment companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate statistics for these small establishments. Data are also included in respective size classes shown.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 5. Industry Statistics by Primary Product Class Specialization: 2002

[Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note at end of table. For meaning of abbreviations and symbols, see introductory text]

Industry or product class code	Industry or primary product class	All establishments ¹	All employees		Production workers			Value added (\$1,000)	Total cost of materials (\$1,000)	Total value of shipments (\$1,000)	Total capital expenditures (\$1,000)
			Number ²	Payroll (\$1,000)	Number ²	Hours (1,000)	Wages (\$1,000)				
336322	Other motor vehicle electrical and electronic equipment manufacturing .	782	92 028	3 533 334	66 615	128 131	2 145 084	11 590 527	11 063 662	22 629 073	'627 709
3363221	Ignition harness and cable sets	60	8 186	193 269	6 593	12 250	124 863	569 695	701 576	1 234 988	'29 472
3363223	Battery charging alternators, generators, and regulators	44	11 940	454 850	9 361	18 366	303 308	862 447	706 889	1 558 349	'27 848
3363225	Cranking motors (starters)	20	12 855	400 074	10 241	17 477	294 377	1 353 437	904 175	2 205 188	'35 082
3363227	Spark plugs (all types)	4	1 459	74 286	1 267	2 773	65 150	263 116	150 498	409 892	'9 394
3363229	All other miscellaneous complete engine electrical equipment	35	13 920	642 124	9 525	20 541	394 260	2 481 456	3 327 540	5 786 878	'183 489
336322A	Parts for engine electrical and electronic equipment	15	2 541	68 949	1 910	3 813	40 423	164 168	227 758	399 344	'10 232
336322D	Motor vehicle electrical and electronic equipment	95	31 964	1 383 172	20 558	39 250	718 670	5 075 788	4 214 034	9 384 569	'289 575

¹Includes establishments with payroll at any time during the year.

²Number of employees figures represent average number of production workers for pay period that includes the 12th of March, May, August, and November plus other employees for payroll period that includes the 12th of March.

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6a. **Products Statistics: 2002 and 1997**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
336322	Other motor vehicle electrical and electronic equipment manufacturing	2002.. N	X	X	17 581 815
	1997.. N	N	X	X	15 692 440
3363221	Ignition harness and cable sets	2002.. N	X	X	1 145 471
	1997.. N	N	X	X	845 274
33632211	Ignition harness and cable sets	2002.. N	X	X	820 918
	1997.. N	N	X	X	553 647
3363221101	Automotive-type ignition harness sets	2002.. 29	X	X	762 256
	1997.. 18	X	X	X	467 827
3363221104	Other ignition harness sets, including tractor, stationary engine, and aircraft	2002.. 15	X	X	58 662
	1997.. 13	X	X	X	85 820
33632212	Engine electrical cable sets, all types	2002.. N	X	X	289 546
	1997.. N	X	X	X	209 358
3363221201	Automotive-type engine electrical cable sets	2002.. 20	X	X	194 607
	1997.. 22	X	X	X	180 500
3363221204	Aircraft and other type engine electrical cable sets	2002.. 13	X	X	94 939
	1997.. 13	X	X	X	28 858
3363221Y	Ignition harness and cable sets, nsk	2002.. N	X	X	35 007
	1997.. N	X	X	X	82 269
3363221YVV	Ignition harness and cable sets, nsk	2002.. N	X	X	35 007
	1997.. N	X	X	X	82 269
3363223	Battery charging alternators, generators, and regulators	2002.. N	X	X	1 670 686
	1997.. N	X	X	X	2 226 011
33632231	New battery charging alternators and generators for internal combustion engines	2002.. N	X	X	1 387 345
	1997.. N	X	X	X	1 458 543
3363223101	New automotive battery charging alternators and generators for internal combustion engines	2002.. 31	X	X	1 359 932
	1997.. 18	X	X	X	1 385 008
3363223104	All other new battery charging alternators and generators for internal combustion engines	2002.. 7	X	X	27 413
	1997.. 14	X	X	X	73 535
33632232	Rebuilt battery charging alternators and generators for internal combustion engines (all types), including regulators for alternators and generators	2002.. N	X	X	242 752
	1997.. N	X	X	X	651 348
3363223201	Rebuilt battery charging alternators and generators for internal combustion engines, all types	2002.. 35	X	X	204 967
	1997.. 69	X	X	X	624 270
3363223204	Regulators for battery charging alternators and generators (new and rebuilt)	2002.. 9	X	X	37 785
	1997.. 10	X	X	X	27 078
3363223Y	Battery charging alternators, generators, and regulators, nsk	2002.. N	X	X	40 589
	1997.. N	X	X	X	116 120
3363223YVV	Battery charging alternators, generators, and regulators, nsk	2002.. N	X	X	40 589
	1997.. N	X	X	X	116 120
3363225	Cranking motors (starters)	2002.. N	X	X	2 203 794
	1997.. N	X	X	X	759 716
33632251	New starting (engine cranking) motors	2002.. N	X	X	1 880 517
	1997.. N	X	X	X	348 439
3363225101	Automotive starting (engine cranking) motors, new	2002.. 20	X	X	D
	1997.. 8	X	X	X	D
3363225104	Other new starting (engine cranking) motors	2002.. 8	X	X	D
	1997.. 10	X	X	X	D
33632252	Rebuilt starting (engine cranking) motors, all types	2002.. N	X	X	302 792
	1997.. N	X	X	X	333 397
3363225201	Rebuilt starting (engine cranking) motors, all types	2002.. 38	X	X	302 792
	1997.. 59	X	X	X	333 397
3363225Y	Cranking motors (starters), nsk	2002.. N	X	X	20 485
	1997.. N	X	X	X	77 880
3363225YVV	Cranking motors (starters), nsk	2002.. N	X	X	20 485
	1997.. N	X	X	X	77 880
3363227	Spark plugs (all types)	2002.. N	X	X	507 283
	1997.. N	X	X	X	522 346
33632271	Spark plugs (all types)	2002.. N	X	X	507 283
	1997.. N	X	X	X	522 346
3363227100	Spark plugs (all types)	2002.. 8	X	X	507 283
	1997.. 7	X	X	X	522 346
3363229	All other miscellaneous complete engine electrical equipment	2002.. N	X	X	4 505 965
	1997.. N	X	X	X	3 163 388
33632291	Engine electrical ignition coils (all types)	2002.. N	X	X	860 560
	1997.. N	X	X	X	595 079
3363229101	Engine electrical ignition coils (all types)	2002.. 19	X	X	860 560
	1997.. 16	X	X	X	595 079
33632292	Electronic systems for complete engine control, using computers or microprocessors	2002.. N	X	X	1 293 672
	1997.. N	X	X	X	1 367 344
3363229201	Electronic systems for complete engine control, using computers or microprocessors	2002.. 15	X	X	1 293 672
	1997.. 11	X	X	X	1 367 344
33632293	All other complete engine electrical and electronic equipment	2002.. N	X	X	2 349 923
	1997.. N	X	X	X	988 438
3363229301	Electrical distributors (all types)	2002.. 12	X	X	44 662
	1997.. 8	X	X	X	164 711
3363229304	Magnetos, magneto-dynamos, and magnetic flywheels	2002.. 5	X	X	D
	1997.. 5	X	X	X	D
3363229307	All other complete ignition equipment, including electronic ignitions	2002.. 14	X	X	D
	1997.. 10	X	X	X	D
3363229309	All other complete electrical and electronic equipment for internal combustion engines	2002.. 19	X	X	1 034 974
	1997.. 14	X	X	X	689 100
3363229Y	All other miscellaneous complete engine electrical equipment, nsk	2002.. N	X	X	1 810
	1997.. N	X	X	X	212 527

See footnotes at end of table.

Table 6a. **Products Statistics: 2002 and 1997—Con.**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Product code	Product	Number of companies with shipments of \$100,000 or more	Quantity of production for all purposes	Product shipments	
				Quantity	Value (\$1,000)
336322	Other motor vehicle electrical and electronic equipment manufacturing—Con.				
3363229	All other miscellaneous complete engine electrical equipment—Con.				
3363229Y	All other miscellaneous complete engine electrical equipment, nsk—Con.				
3363229YV	All other miscellaneous complete engine electrical equipment, nsk	2002..	N	X	1 810
		1997..	N	X	212 527
336322A	Parts for engine electrical and electronic equipment	2002..	N	X	373 096
		1997..	N	X	446 452
336322A1	Armatures, field coils, and drive-end housings for cranking motors	2002..	N	X	D
		1997..	N	X	16 844
336322A101	Armatures, field coils, and drive-end housings for cranking motors	2002..	8	X	D
		1997..	10	X	16 844
336322A2	Armatures and field coils for alternators and generators	2002..	N	X	9 820
		1997..	N	X	4 792
336322A204	Armatures and field coils for alternators and generators	2002..	8	X	9 820
		1997..	6	X	4 792
336322A3	Ignition distributor heads and rotors	2002..	N	X	64 959
		1997..	N	X	184 777
336322A307	Ignition distributor heads and rotors	2002..	9	X	64 959
		1997..	6	X	184 777
336322A4	Ignition distributor breaker point sets	2002..	N	X	D
		1997..	N	X	D
336322A409	Ignition distributor breaker point sets	2002..	1	X	D
		1997..	4	X	D
336322A5	Ignition distributor condensers (capacitors)	2002..	N	X	D
		1997..	N	X	D
336322A512	Ignition distributor condensers (capacitors)	2002..	3	X	D
		1997..	2	X	D
336322A6	Other parts for engine electrical and/or electronic equipment	2002..	N	X	128 373
		1997..	N	X	212 850
336322A615	Other parts for engine electrical and/or electronic equipment	2002..	19	X	128 373
		1997..	31	X	212 850
336322AY	Parts for engine electrical and electronic equipment, nsk	2002..	N	X	24 457
		1997..	N	X	22 111
336322AYV	Parts for engine electrical and electronic equipment, nsk	2002..	N	X	24 457
		1997..	N	X	22 111
336322D	Motor vehicle electrical and electronic equipment	2002..	N	X	6 124 986
		1997..	N	X	N
336322D1	Motor vehicle electrical and electronic equipment, new and rebuilt	2002..	N	X	6 124 986
		1997..	N	X	N
336322D102	Motor vehicle cruise control units, new	2002..	9	X	294 518
		1997..	N	X	N
336322D104	Motor vehicle permanent defrosters, new	2002..	—	X	—
		1997..	N	X	N
336322D107	Motor vehicle wiring harness sets, except ignition, new	2002..	41	X	1 787 039
		1997..	N	X	N
336322D111	Motor vehicle windshield washer-wiper mechanisms, including washer pumps, new	2002..	16	X	936 258
		1997..	N	X	N
336322D114	Motor vehicle block and battery heaters, new	2002..	1	X	D
		1997..	N	X	N
336322D115	Other motor vehicle heaters and other heater parts, new	2002..	8	X	99 419
		1997..	N	X	N
336322D119	Electronic control modular chips for motor vehicles ¹	2002..	8	X	1 182 196
		1997..	N	X	N
336322D121	Motor vehicle instrument board assemblies, new	2002..	8	X	49 339
		1997..	N	X	N
336322D122	Other motor vehicle electrical and electronic equipment (excluding engine electrical equipment), new	2002..	32	X	1 239 721
		1997..	N	X	N
336322D124	Cruise control units, rebuilt	2002..	1	X	D
		1997..	N	X	N
336322D127	Windshield washer-wiper units, rebuilt	2002..	3	X	D
		1997..	N	X	N
336322D130	Other electrical equipment, except engine electrical equipment, rebuilt	2002..	11	X	507 818
		1997..	N	X	N
336322DY	Motor vehicle electrical and electronic equipment, nsk	2002..	N	X	—
		1997..	N	X	N
336322DYV	Motor vehicle electrical and electronic equipment, nsk	2002..	N	X	—
		1997..	N	X	N
336322W	Other motor vehicle electrical and electronic equipment manufacturing, nsk, total	2002..	N	X	1 050 534
		1997..	N	X	541 766
336322WY	Other motor vehicle electrical and electronic equipment manufacturing, nsk, total	2002..	N	X	1 050 534
		1997..	N	X	541 766
336322WYV	Other motor vehicle electrical and electronic equipment manufacturing, nsk, for nonadministrative-record establishments	2002..	N	X	812 740
		1997..	N	X	356 003
336322WYV	Other motor vehicle electrical and electronic equipment manufacturing, nsk, for administrative-record establishments	2002..	N	X	237 794
		1997..	N	X	185 763

¹For additional detail, see Current Industrial Report MA334Q, Semiconductors and Electronic Components.

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p—10 to 19 percent estimated; q—20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Table 6a. **Products Statistics: 2002 and 1997—Con.**

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.

Table 6b. **Product Class Shipments for Selected States: 2002 and 1997**

[Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in Table 2. Also, product classes are not shown if they are miscellaneous or "not specified by kind" classes. Statistics for some states are withheld because they are either less than \$2 million in product class shipments or they disclose data for individual companies in 2002. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, explanation of terms, and geographic definitions, see note at end of table. For information on geographic areas followed by *, see Appendix D. For meaning of abbreviations and symbols, see introductory text]

NAICS product class code	Product class and geographic area	Value of product shipments (\$1,000)
3363221	Ignition harness and cable sets	
	United States	2002 . . 1 145 471
		1997 . . 845 274
	California	2002 . . 11 029
		1997 . . N
	Illinois	2002 . . 107 555
		1997 . . 57 362
	Indiana	2002 . . 97 267
		1997 . . 68 496
	Mississippi	2002 . . 71 168
		1997 . . 101 617
	New Jersey	2002 . . 7 764
		1997 . . N
	North Carolina	2002 . . 2 218
		1997 . . N
	Pennsylvania	2002 . . 49 573
		1997 . . 28 488
	Washington	2002 . . 27 697
		1997 . . N
	Wisconsin	2002 . . 6 081
		1997 . . 11 016
3363223	Battery charging alternators, generators, and regulators	
	United States	2002 . . 1 670 686
		1997 . . 2 226 011
	California	2002 . . 127 092
		1997 . . 47 461
	Illinois	2002 . . 56 365
		1997 . . 63 375
	Michigan	2002 . . 418 996
		1997 . . N
	New York	2002 . . 65 848
		1997 . . N
	Texas	2002 . . 12 070
		1997 . . 28 635
3363225	Cranking motors (starters)	
	United States	2002 . . 2 203 794
		1997 . . 759 716
	California	2002 . . 124 584
		1997 . . 25 586
	Illinois	2002 . . 25 669
		1997 . . 33 796
	Michigan	2002 . . 925 563
		1997 . . N
	New York	2002 . . 17 081
		1997 . . 5 272
	Texas	2002 . . 6 581
		1997 . . 20 238
3363227	Spark plugs (all types)	
	United States	2002 . . 507 283
		1997 . . 522 346
3363229	All other miscellaneous complete engine electrical equipment	
	United States	2002 . . 4 505 965
		1997 . . 3 163 388
	California	2002 . . 45 552
		1997 . . N
	Florida	2002 . . 69 516
		1997 . . N
	Michigan	2002 . . 269 167
		1997 . . N
	Ohio	2002 . . 98 287
		1997 . . 74 313
	South Carolina	2002 . . 156 793
		1997 . . N
336322A	Parts for engine electrical and electronic equipment	
	United States	2002 . . 373 096
		1997 . . 446 452
	Florida	2002 . . 13 652
		1997 . . N
	Michigan	2002 . . 4 985
		1997 . . N
	Mississippi	2002 . . 12 487
		1997 . . N
336322D	Motor vehicle electrical and electronic equipment	
	United States	2002 . . 6 124 986
		1997 . . N
	Illinois	2002 . . 672 895
		1997 . . N
	Indiana	2002 . . 1 315 611
		1997 . . N
	Kansas	2002 . . 9 636
		1997 . . N
	Michigan	2002 . . 455 029
		1997 . . N
	Missouri	2002 . . 3 179
		1997 . . N
	North Carolina	2002 . . 150 203
		1997 . . N
	Pennsylvania	2002 . . 86 858
		1997 . . N

See footnotes at end of table.

Table 6b. **Product Class Shipments for Selected States: 2002 and 1997—Con.**

Note: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C. For geographical definitions, see Appendix D.

Table 7. Materials Consumed by Kind: 2002 and 1997

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
336322	Other motor vehicle electrical and electronic equipment manufacturing		
00900001	Total materials .....2002..	X	8 734 073
	.....1997..	X	8 696 435
33151001	Iron and steel castings (rough and semifinished) .....2002..	X	225 193
	.....1997..	X	25 476
33152005	Aluminum and aluminum-base alloy castings (rough and semifinished) .....2002..	X	277 477
	.....1997..	X	65 041
33152003	Other nonferrous metal castings, rough and semifinished (including aluminum and aluminum-base alloy) .....2002..	X	16 705
	.....1997..	X	1 399
33120007	Steel bars, bar shapes, and plate (excluding castings, forgings, and fabricated metal products) .....2002..	X	5 766
	.....1997..	X	11 970
33120016	Steel sheet and strip (including tinplate) .....2002..	X	13 622
	.....1997..	X	N
33120033	All other steel shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	58 342
	.....1997..	X	15 776
33142111	Copper and copper-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	119 190
	.....1997..	X	315 636
33100038	Aluminum and aluminum-base alloy shapes and forms (excluding castings, forgings, and fabricated metal products) .....2002..	X	25 477
	.....1997..	X	N
33100082	Other nonferrous metal shapes and forms (excluding aluminum and aluminum-base alloy and copper and copper-base alloy castings, forgings, and fabricated metal products) .....2002..	X	D
	.....1997..	X	N
33299101	Ball and roller bearings (mounted or unmounted) .....2002..	X	34 839
	.....1997..	X	42 565
32610007	Fabricated plastics products (excluding gaskets, hoses, and belting) .....2002..	X	270 378
	.....1997..	X	197 179
32610013	Plastics products consumed in the form of sheets, rods, tubes, film, and other shapes .....2002..	X	68 889
	.....1997..	X	27 649
32521105	Plastics resins consumed in the form of granules, pellets, powders, liquids, etc. ....2002..	X	106 085
	.....1997..	X	179 554
32600017	Fabricated rubber products (excluding tires, tubes, hose, belting, and gaskets) .....2002..	X	17 451
	.....1997..	X	134 383
32622001	Rubber and plastics hose and belting .....2002..	X	D
	.....1997..	X	3 368
32500023	Ceramic raw materials (including powders, chemicals, and fibers), excluding refractory uses .....2002..	X	D
	.....1997..	X	D
32700035	Ceramic and ceramic composite parts, components, and accessories .....2002..	X	D
	.....1997..	X	D
33999103	Gaskets (all types), and packing and sealing devices .....2002..	X	D
	.....1997..	X	4 676
32551002	Paints, varnishes, stains, lacquers, shellacs, japans, enamels, and allied product .....2002..	X	7 927
	.....1997..	X	N
32552002	Glues and adhesives .....2002..	X	6 646
	.....1997..	X	N
00190003	Flexible packaging materials .....2002..	X	4 278
	.....1997..	X	D
32220015	Paper and paperboard containers .....2002..	X	43 113
	.....1997..	X	17 146
33632201	Spark plugs for internal combustion engines .....2002..	X	D
	.....1997..	X	N
33632202	Generators for internal combustion engines .....2002..	X	32 957
	.....1997..	X	N
33632203	Starting motors for internal combustion engines .....2002..	X	58 363
	.....1997..	X	N
33632204	Distributors for internal combustion engines .....2002..	X	D
	.....1997..	X	N
33632205	Ignition coils for internal combustion engines .....2002..	X	51 053
	.....1997..	X	N
33632206	Ignition harness and cable sets for internal combustion engines .....2002..	X	37 018
	.....1997..	X	N
33632219	All other engine electrical equipment for internal combustion engines .....2002..	X	D
	.....1997..	X	N
33632207	Magnetos, magneto-dynamos, and magnetic flywheels for internal combustion engines .....2002..	X	20 719
	.....1997..	X	N
33361815	Injection fuel pumps .....2002..	X	D
	.....1997..	X	N
33441500	Resistors for electronic circuitry .....2002..	X	55 139
	.....1997..	X	116 689
33441400	Capacitors for electronic circuitry .....2002..	X	69 198
	.....1997..	X	155 570
33441300	Semiconductors (including transistors, diodes, rectifiers, and integrated circuits), for electronic circuitry .....2002..	X	846 953
	.....1997..	X	844 372
00190033	Used engine electrical equipment for rebuilding, or to be used in rebuilding (starting motors, generators, etc.) .....2002..	X	D
	.....1997..	X	127 398
001900D3	All other miscellaneous components and accessories, for electronic circuitry (excluding tubes) .....2002..	X	480 979
	.....1997..	X	214 167
00999826	Core parts purchased for use in remanufacturing and rebuilding .....2002..	X	393 749
	.....1997..	X	33 529
33441200	Printed circuit boards (without inserted components) for electronic circuitry .....2002..	X	646 634
	.....1997..	X	301 117
33272203	Metal bolts, nuts, screws, washers, rivets, and other screw machine products .....2002..	X	138 420
	.....1997..	X	374 618
33200019	Other fabricated metal products (excluding fluid power, forgings, automotive stamping and bolts, nuts, screws, rivets, washers, and screw machine products) .....2002..	X	169 211
	.....1997..	X	27 597
33210000	Forgings .....2002..	X	D
	.....1997..	X	N

See footnotes at end of table.

Table 7. Materials Consumed by Kind: 2002 and 1997—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. Data based on the 2002 Economic Census. For information on confidentiality protection, nonsampling error, and explanation of terms, see note 2 at end of table. For meaning of abbreviations and symbols, see introductory text]

Material code	Material consumed	Quantity	Delivered cost (\$1,000)
336322	Other motor vehicle electrical and electronic equipment manufacturing—Con.		
331000A1	Insulated wire and cable (excluding magnet wire) .....2002..	X	77 409
	.....1997..	X	N
33100097	Magnet wire .....2002..	X	31 770
	.....1997..	X	53 726
33361200	Mechanical speed changers, gears, and industrial high-speed drives .....2002..	X	357
	.....1997..	X	D
33399601	Fluid power pumps, motors, and hydrostatic transmissions (hydraulic and pneumatic) .....2002..	X	179 855
	.....1997..	X	D
33291207	Fluid power valves (hydraulic and pneumatic) .....2002..	X	3 122
	.....1997..	X	D
33399501	Fluid power cylinders and rotary actuators (hydraulic and pneumatic) .....2002..	X	D
	.....1997..	X	D
33291203	Fluid power hose and tube fittings and assemblies (hydraulic and pneumatic) .....2002..	X	34 582
	.....1997..	X	D
33399901	Fluid power filters (hydraulic and pneumatic) .....2002..	X	8 937
	.....1997..	X	D
00190087	Other transportation related fluid power products, hydraulic and pneumatic .....2002..	X	D
	.....1997..	X	N
33637000	Automotive stampings (including body parts, hubcaps, fenders, etc.) .....2002..	X	92 514
	.....1997..	X	55 569
33593101	Current-carrying wiring devices .....2002..	X	178 768
	.....1997..	X	83 083
32500046	Other chemicals and allied products .....2002..	X	8 636
	.....1997..	X	N
00970099	All other materials and components, parts, containers, and supplies .....2002..	X	1 582 915
	.....1997..	X	3 459 452
00971000	Materials, ingredients, containers, and supplies, nsk .....2002..	X	1 368 532
	.....1997..	X	1 530 973

Note 1: For some establishments, data have been estimated from central unit values that are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: p—10 to 19 percent estimated; q—20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by S.

Note 2: The data in this table are based on the 2002 Economic Census. To maintain confidentiality, the Census Bureau suppresses data to protect the identity of any business or individual. The census results in this table contain nonsampling errors. Data users who create their own estimates using data from American FactFinder tables should cite the Census Bureau as the source of the original data only. For explanation of terms, see Appendix A. For full technical documentation, see Appendix C.